

AD-A088 846

NAVAL OCEAN SYSTEMS CENTER SAN DIEGO CA

F/G 9/1

REMOTE MEDICAL DIAGNOSIS SYSTEM (RMDS): SHIPBOARD INSTALLATION --ETC(U)

APR 80 W T RASMUSSEN, I STEVENS

UNCLASSIFIED

NOSC/TD-349

NL

[06]
AL
NOV 80

NOSC

3

END
DATE
FILMED
10-80
DTIC

LEVEL II

42

NOSC

NOSC TD 349

AD A088846

DTIC
SEP 8 1980
C

NOSC TD 349

Technical Document 349

REMOTE MEDICAL DIAGNOSIS SYSTEM (RMDS): SHIPBOARD INSTALLATION AND WIRING ON USS ENTERPRISE, CVN-65

W T Rasmussen
and
I Stevens

April 1980

Final Report: January — March 1978

Prepared for
Naval Medical Research and Development Command

Approved for public release; distribution unlimited.

NAVAL OCEAN SYSTEMS CENTER
SAN DIEGO, CALIFORNIA 92152

DDC FILE COPY.

80 9 4 027



NAVAL OCEAN SYSTEMS CENTER, SAN DIEGO, CA 92152

A N A C T I V I T Y O F T H E N A V A L M A T E R I A L C O M M A N D

SL GUILLE, CAPT, USN

Commander

HL BLOOD

Technical Director

ADMINISTRATIVE INFORMATION

This report is one in a series of reports for the Remote Medical Diagnosis System (RMDS), NOSC Work Unit CM38, sponsored by the Naval Medical Research and Development Command. This document is based on work performed by the Naval Electronic Systems Engineering Center, Vallejo, California, between 1 January 1978 and 17 March 1978. Contained in this document are specifications and schematics for electrical cable runs and installation of RMDS Advanced Development Model (ADM) aboard the USS ENTERPRISE, CVN-65.

The RMDS ADM was tested for technical performance at sea by Ilya Stevens and Patrick D. Hayes of the Naval Ocean Systems Center (NOSC), Biomedical Engineering Branch, Code 8233, and James West of WESTEC Services, Inc., under the direction of Dr. W.T. Rasmussen, Head, Code 8233.

Released by
Dr. J. Silva, Head
Man-System Interaction Division
NOSC, Code 823

Under authority of
J.H. Maynard, Head
C²-EW Systems and Technology Department
NOSC, Code 82

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER (14) <u>NO SC/ID-349</u>	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) (6) <u>REMOTE MEDICAL DIAGNOSIS SYSTEM (RMDS): SHIPBOARD INSTALLATION AND WIRING ON USS ENTERPRISE, CVN-65</u>		5. TYPE OF REPORT & PERIOD COVERED (9) <u>Final report, January - March 1978</u>
7. AUTHOR(s) (10) <u>W. Rasmussen J. Stevens</u>		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS Naval Ocean Systems Center San Diego, CA 92152		8. CONTRACT OR GRANT NUMBER(s)
11. CONTROLLING OFFICE NAME AND ADDRESS Naval Medical Research and Development Command, Bethesda MD 20014		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS CM38
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		12. REPORT DATE (11) <u>April 1980</u>
		13. NUMBER OF PAGES (12) <u>36</u>
		15. SECURITY CLASS. (of this report) Unclassified
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Specifications and schematics for electrical cable runs and installation of Remote Medical Diagnosis System advance development model aboard the USS ENTERPRISE are presented.		

DD FORM 1 JAN 73 1473

EDITION OF 1 NOV 68 IS OBSOLETE
S/N 0102-LF-014-6601

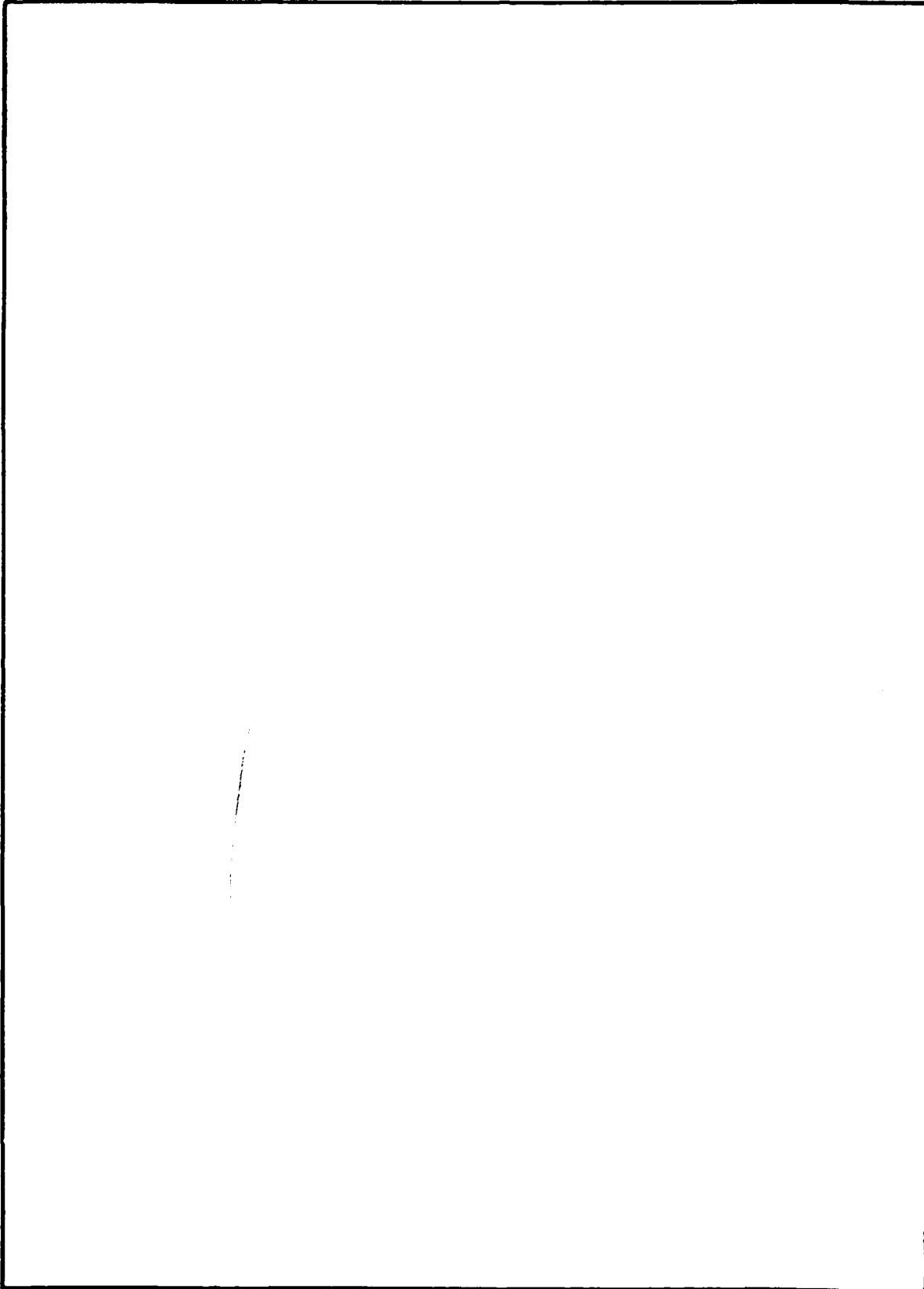
UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

293151

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)



UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)

TABLE OF CONTENTS

	<u>Page</u>
I. Introduction.	iii
II. Cable Running Lists	1
1. Integrating Group, ON-143 to GNDBOXSYM-434.	4
2. GNDBOXSYM-434 to CONBOXSYM-522.1	5
3. SB-863 Transmitter Switchboards to CONBOXSYM-522.1	6
4. SB-82 to SB-863	8
5. Power Panel to AC Receptacle.	10
6. Power Panel to RMDS Rack.	12
III. RMDS Shipboard Wiring Schematics.	13
1. Block Wiring Diagram (Sheet 1 of 5)	15
2. Material List (Sheet 2 of 5).	17
3. Block Wiring Diagram (Sheet 3 of 5)	19
4. AC Power and Miscellaneous Dets. (Sheet 4 of 5)	21
5. Shield Ground and Cable Pen. Det. to Secure Spaces (Sheet 5 of 5).	23
6. Equipment Arrangement and Foundations (Sheet 1 of 4).	25
7. Material List (Sheet 2 of 4).	27
8. Arrangement and Elevation (Sheet 3 of 4).	29
9. Foundation Detail (Sheet 4 of 4).	31

Accession For	
NTIS GRA&I	<input checked="checked" type="checkbox"/>
DDC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By _____	
Distribution/ _____	
Availability Codes	
Dist	Avail and/or special
A	

I. INTRODUCTION

The mission of the Remote Medical Diagnosis System (RMDS) is to improve medical diagnosis at remote sites. This is accomplished by transmitting medical data and diagnostic information between remote ship or shore sites and full-capability medical centers. The RMDS will enable the medical personnel at a remote site to contact a physician at a diagnostic center (ashore or shipboard) and transmit a visual and auditory presentation of the medical data needed for diagnosis, such as patient history, laboratory tests, ECG tracings, x-ray images, images of a patient injury, heart-lung sounds, and verbal descriptions. By return link, the physician will be able to send diagnosis and treatment information. The communication requirements for this are satisfied by any two-way, voice-grade, narrowband communication channel such as telephone line, HF or UHF radio, or satellite links.

The system as a whole consists essentially of the Remote Medical Diagnosis Terminals (RMDTs), user personnel, and existing voice-grade communication links which can be used to interconnect the terminals. All the hardware which is unique to the system is contained in the terminals, including a TV camera, TV monitor, x-ray light box, electronic stethoscope, ECG monitor, audio tape recorder, audio handsets, and the electronics package, consisting of signal modulator, demodulator, and modems.

Shipboard feasibility tests of an early RMDS were completed during FY-75/76. This testing showed that the concept was feasible and that equipment could be developed to meet the requirements using available technology. Advanced Development Models (ADMs) were specified and procured in September 1977.

The USS ENTERPRISE (CVN-65) was designated as the test ship for the at-sea tests of the RMDS ADMs. The at-sea tests were performed in February and March 1978. One of the RMDS units was installed in the sickbay area on board the USS ENTERPRISE. The second RMDS unit was located at the Naval Ocean Systems Center (NOSC), San Diego, California.

All work on the cable runs, their design and installation, and the choice of cable routes were performed by the Naval Electronic Systems Engineering Center, Vallejo, California. This work was performed in accordance with the drawings and specifications contained in this report.

II. CABLE RUNNING LISTS

This section contains the cable run lists used for wiring and installation.

[illegible]

GENERAL NOTES:

1. INSTALLATION OF CABLES WITHIN SECURE AND NON-SECURE SPACES SHALL BE IN ACCORDANCE WITH MIL-STD-1680 (SHIPS) AND MIL-STD-1310C RESPECTIVELY. SEE REF 2 SHEET
2. CABLE INSTALLATION SHALL BE IN ACCORDANCE WITH NS 0967-000-0110.
3. REMOVE EXISTING WIRING FROM TWO REMOTE POSITIONS ON SB-363 TRANSMITTER SWITCHBOARDS DESIGNATED BY SHIPS FORCE AND HOOK UP CABLES R-RQ-MED1 AND R-RQ-MED2 TO SAME.
4. REMOVE EXISTING WIRING FROM TWO REMOTE POSITIONS ON SB-82 RECEIVER SWITCHBOARDS DESIGNATED BY SHIPS FORCE AND HOOK UP CABLES R-RR-MED1 AND R-RR-MED2 TO SAME.
5. R-RQ-MED1, R-RQ-MED2 AND R-DD-MED1A CABLE ROUTE AS FOLLOWS:
 - A. 2ND DECK, FRAME 120, WARD 1
 - B. 2ND DECK, FRAME 124, WARD 2
 - C. 2ND DECK, FRAME 124, PORT PASSAGE
 - D. MAIN DECK, FRAME 124, PORT
 - E. 03 LEVEL, FRAME 122, PORT
 - F. 02 LEVEL, FRAME 122, PORT
 - G. 03 LEVEL, FRAME 122, PORT
 - H. 03 LEVEL, FRAME 121, PORT PASSAGE 03-121-6
 - I. 03 LEVEL, FRAME 121-104 PORT PASSAGE
 - J. 03 LEVEL, FRAME 104 PORT/STBD ATHWART PASSAGE
 - K. 03 LEVEL, FRAME 104-20 STBD PASSAGE
 - L. 03 LEVEL, FRAME 20, STBD, RADIO CENTRAL
6. CABLES SHALL BE ROUTED IN EXISTING CABLE WAYS WHEREVER POSSIBLE. IF NEW CABLE ROUTES ARE REQUIRED, NEW CABLE SUPPORTS SHALL BE INSTALLED IN ACCORDANCE WITH NS 0967-000-0110.

SIZE	CODE IDENT	DRAWING NO.			REV.
A	14203	CVN-65	409	4791577	
SCALE		WEIGHT		SH 2	OF 11

LEAD NO. (CDD-MED)			CABLE TYPE 25110				ACTIVE COND 16	
UNIT A 01-143			CONNECTOR TYPE MS3216F20-41SY		UNIT B ANDROXSY1434		CONNECTOR TYPE 0X	
NO	PAIR NO	COLOR CODE	TERMINAL	WIRE MARKING	TERMINAL	WIRE MARKING	REMARKS	
1	1		J14-J	J14-J/TB1-1	TB1-1	TB1-1/J14-J	XMT DATA	
2	1		J14-K	J14-K/TB1-2	TB1-2	TB1-2/J14-K	XMT DATA RTN	
3	2		J14-L	J14-L/TB1-3	TB1-3	TB1-3/J14-L	XMT CLK	
4	2		J14-M	J14-M/TB1-4	TB1-4	TB1-4/J14-M	XMT CLK RTN	
5	3		J14-N	J14-N/TB1-5	TB1-5	TB1-5/J14-N	RCV DATA	
6	3		J14-P	J14-P/TB1-6	TB1-6	TB1-6/J14-P	RCV DATA RTN	
7	4		J14-R	J14-R/TB1-7	TB1-7	TB1-7/J14-R	RCV CLK	
8	4		J14-S	J14-S/TB1-8	TB1-8	TB1-8/J14-S	RCV CLK RTN	
9	5		J14-T	J14-T/TB1-9	TB1-9	TB1-9/J14-T	DATA KEY	
10	5		J14-U	J14-U/TB1-10	TB1-10	TB1-10/J14-U	DATA KEY RTN	
11	6		J14-V	J14-V/TB1-11	TB1-11	TB1-11/J14-V	CH BUSY	
12	6		J14-W	J14-W/TB1-12	TB1-12	TB1-12/J14-W	CH BUSY RTN	
13	7		J14-h	J14-h/TB1-13	TB1-13	TB1-13/J14-h	ALM RESET	
14	7		J14-i	J14-i/TB1-14	TB1-14	TB1-14/J14-i	ALM RESET RTN	
15	8		J14-j	J14-j/TB1-15	TB1-15	TB1-15/J14-j	ALM IND	
16	8		J14-k	J14-k/TB1-16	TB1-16	TB1-16/J14-k	ALM IND RTN	
17	9		GND	SPARE	GND	SPARE	SPARE	
18	9		GND	SPARE	GND	SPARE	SPARE	
19	10		GND	SPARE	GND	SPARE	SPARE	
20	10		GND	SPARE	GND	SPARE	SPARE	
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								

NOTE: GROUND SHIELDS AND SPARE WIRES AT BOTH ENDS OF CABLE IN ACCORDANCE WITH MIL-STD-1680 (SHIPS), SEE REF 2 SHEET

CABLE RUNNING LIST				SIZE	CODE IDENT	DRAWING NO.		REV.
				A	14203	CVN-65	409	4791577
SCALE				WEIGHT		SH 3		OF 11

LEAD NO R-DD-MEDIA			CABLE TYPE 25010			ACTIVE COND 16		
UNIT A DBXSY:1434			CONNECTOR TYPE BX			UNIT B DBXSY:1522.1		
CONNECTOR TYPE BX			CONNECTOR TYPE BX			CONNECTOR TYPE BX		
NR	PAIR NR	COLOR CODE	TERMINAL	WIRE MARKING	TERMINAL	WIRE MARKING	REMARKS	
1	1		TB1-1	TB1-1/TB2-5	TB2-5	TB2-5/TB1-1	XMT DATA	
2	1		TB1-2	TB1-2/TB2-6	TB2-6	TB2-6/TB1-2	XMT DATA PTN	
3	2		TB1-3	TB1-3/TB2-7	TB2-7	TB2-7/TB1-3	XMT CLK	
4	2		TB1-4	TB1-4/TB2-8	TB2-8	TB2-8/TB1-4	XMT CLK RTN	
5	3		TB1-5	TB1-5/TB2-9	TB2-9	TB2-9/TB1-5	PCV DATA	
6	3		TB1-6*	TB1-6/TB2-10	TB2-10	TB2-10/TB1-6	PCV DATA RTN	
7	4		TB1-7	TB1-7/TB2-11	TB2-11	TB2-11/TB1-7	PCV CLK	
8	4		TB1-8	TB1-8/TB2-12	TB2-12	TB2-12/TB1-8	PCV CLK RTN	
9	5		TB1-9	TB1-9/TB2-13	TB2-13	TB2-13/TB1-9	DATA KEY	
10	5		TB1-10	TB1-10/TB2-14	TB2-14	TB2-14/TB1-10	DATA KEY RTN	
11	6		TB1-11	TB1-11/TB2-15	TB2-15	TB2-15/TB1-11	CH BUSY	
12	6		TB1-12	TB1-12/TB2-16	TB2-16	TB2-16/TB1-12	CH BUSY RTN	
13	7		TB1-13	TB1-13/TB2-17	TB2-17	TB2-17/TB1-13	ALM RESET	
14	7		TB1-14	TB1-14/TB2-18	TB2-18	TB2-18/TB1-14	ALM RESET RTN	
15	8		TB1-15	TB1-15/TB2-19	TB2-19	TB2-19/TB1-15	ALM IND	
16	8		TB1-16	TB1-16/TB2-20	TB2-20	TB2-20/TB1-16	ALM IND RTN	
17	9		GND	SPARE		SPARE	SPARE	
18	9		GND	SPARE		SPARE	SPARE	
19	10		GND	SPARE		SPARE	SPARE	
20	10		GND	SPARE		SPARE	SPARE	
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								

NOTE: GROUND SHIELDS TO CHASSIS AT BOTH ENDS OF CABLE.

CABLE RUNNING LIST				SIZE A	CODE IDENT 14203	DRAWING NO. CVN-65 409 4791577		REV.
				SCALE	WEIGHT	SH 4 OF 11		

UNIT A SB-863			CABLE TYPE TTR-8		UNIT B C4NBOXSYH522.1			ACTIVE COND 14
NR	PAIR NR	COLOR CODE	CONNECTOR TYPE	WIRE MARKING	CONNECTOR TYPE	WIRE MARKING	REMARKS	
1	1		R-1	R-1/TB1-1	TB1-1	TB1-1/R-1	START	
2	1		R-2	R-2/TB1-2	TB1-2	TB1-2/R-2	COMMON	
3	2		R-3	R-3/TB1-3	TB1-3	TB1-3/R-3	STOP	
4	2		R-4	R-4/TB1-4	TB1-4	TB1-4/R-4	POWER IND	
5	3		R-5	R-5/TB1-5	TB1-5	TB1-5/R-5	CH KEY	
6	3		R-6	R-6/TB1-6	TB1-6	TB1-6/R-6	CH KEY RTN	
7	4		R-7	R-7/TB1-7	TB1-7	TB1-7/R-7	-12VDC	
8	4		R-8	R-8/TB1-8	TB1-8	TB1-8/R-8	+12VDC	
9	5		R-9	R-9/TB1-9	TB1-9	TB1-9/R-9	MODULATOR	
10	5		R-10	R-10/TB1-10	TB1-10	TB1-10/R-10	MODULATOR	
11	6		R-11	R-11/TB1-11	TB1-11	TB1-11/R-11	PUSH TO TALK	
12	6		R-12	R-12/TB1-12	TB1-12	TB1-12/R-12	CARRIER IND	
13	7	*	SPLICE	SPL1/TB1-13	TB1-13	TB1-13/SPL1	RCV AUDIO	
14	7	*	SPLICE	SPL2/TB1-14	TB1-14	TB1-14/SPL2	RCV AUDIO	
15	8			SPARE		SPARE	SPARE	
16	8			SPARE		SPARE	SPARE	
17								
18								
19								
20								
21		*	INLINE SPLICE TO CABLE R-30-MED1					
22								
23								
24			NOTE: GROUND CABLE SHIELDS TO CHASSIS AT BOTH ENDS OF CABLE					
25								
26			REMOVE EXISTING WIRES ON SB-863					
27			REMOVE POSITION DESIGNATED BY					
28			SHIPS FORCE. IDENTIFY, LABEL					
29			INSULATE AND TIE BACK EXISTING WIRES.					
30			HOOK UP NEW CABLE R-30-MED1					
31			TO REMOTE TERMINALS PREVIOUSLY					
32								
33								
34								
35								
36								

CABLE RUNNING LIST				SIZE A	CODE IDENT 14203	DRAWING NO.		REV.
						CVN-65	409	4791577
				SCALE	WEIGHT		SH 5	OF 11

LEAD NO R-R0-MED2			CABLE TYPE TTRS-8				ACTIVE COMP	
UNIT A SB-863			CONNECTOR TYPE BX		UNIT B CJB0XSYN522.J		CONNECTOR TYPE BX	
NO	PAIR NO	COLOR CODE	TERMINAL	WIRE MARKING	TERMINAL	WIRE MARKING	REMARKS	
1	1		R-1	R-1/TB1-15	TB1-15	TB1-15/R-1	START	
2	1		R-2	R-2/TB1-16	TB1-16	TB1-16/R-2	COMMON	
3	2		R-3	R-3/TB1-17	TB1-17	TB1-17/R-3	STOP	
4	2		R-4	R-4/TB1-18	TB1-18	TB1-18/R-4	POWER IND	
5	3		R-5	R-5/TB1-19	TB1-19	TB1-19/R-5	CH KEY	
6	3		R-6	R-6/TB1-20	TB1-20	TB1-20/R-6	CH KEY RTN	
7	4		R-7	R-7/TB1-21	TB1-21	TB1-21/R-7	-12VDC	
8	4		R-8	R-8/TB1-22	TB1-22	TB1-22/R-8	+12VDC	
9	5		R-9	R-9/TB1-23	TB1-23	TB1-23/R-9	MODULATION	
10	5		R-10	R-10/TB1-24	TB1-24	TB1-24/R-10	MODULATION	
11	6		R-11	R-11/TB2-1	TB2-1	TB2-1/R-11	PUSH TO TALK	
12	6		R-12	R-12/TB2-2	TB2-2	TB2-2/R-12	CARRIER IND	
13	7	*	SPLICE	SPL1/TB2-3	TB2-3	TB2-3/SPL1	RCV AUDIO	
14	7	*	SPLICE	SPL2/TB2-4	TB2-4	TB2-4/SPL2	RCV AUDIO	
15	8			SPARE		SPARE	SPARE	
16	8			SPARE		SPARE	SPARE	
17								
18								
19								
20								
21		*	INCLINE SPLICE TO CABLE R-R-MED2					
22								
23								
24			NOTE: GROUND CABLE SHIELDS TO CHASSIS					
25			AT BOTH ENDS OF CABLE					
26			REMOVE EXISTING WIRES ON SB-863					
27			RENOTE POSITION DESIGNATED BY					
28			SHIPS FORCE. IDENTIFY, LABEL,					
29			INSULATE AND TIE BACK EXISTING WIRES.					
30			HOOK UP NEW CABLE R-R-MED2					
31			TO REMOTE TERMINALS PREVIOUSLY					
32			VACATED.					
33								
34								
35								
36								

CABLE RUNNING LIST				SIZE A	CODE IDENT 14203	DRAWING NO. CMN-65 409 4791577		REV.
				SCALE		WEIGHT		SH 6 OF 11

☆ GPO 793-576 Printed on Bonding 40-532

A

LEAD NO. R-RR-MED1			CABLE TYPE RG-108				ACTIVE COND 2	
UNIT A SB-82			CONNECTOR TYPE BX		UNIT B SB-863		CONNECTOR TYPE BX	
NO	PAIR NO	COLOR CODE	TERMINAL	WIRE MARKING	TERMINAL	WIRE MARKING	REMARKS	
1	1	*	RMT	RMT/SPL1	SPLICE	SPL1/RMT	RCV AUDIO	
2	1	*	RMT	RMT/SPL2	SPLICE	SPL2/RMT	RCV AUDIO	
3								
4								
5								
6								
7		*	INLINE SPLICE TO CABLE R-RR-MED1					
8								
9								
10			NOTE: GROUND SHIELD TO CHASSIS					
11			AT BOTH ENDS OF CABLE					
12			REMOVE EXISTING WIRES ON SB-82					
13			REMOTE POSITION DESIGNATED BY					
14			SHIPS FORCE. IDENTIFY, LABEL,					
15			INSULATE AND TIE BACK EXISTING					
16			WIRES. HOOK UP NEW CABLE R-RR-MED1					
17			TO REMOTE TERMINALS PREVIOUSLY					
18			VACATED.					
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								

CABLE RUNNING LIST				SIZE A	CODE IDENT 14203	DRAWING NO. CVN-65 409 4791577		REV.
				SCALE	WEIGHT		SH 7 OF 11	

© GPO 200-200 Printed on Drawing 40-500

LEAD NO R-RR-MED2			CABLE TYPE RG-108				ACTIVE COND 2	
UNIT A SB-82			CONNECTOR TYPE BX		UNIT B SB-863		CONNECTOR TYPE BX	
NR	PAIR NR	COLOR CODE	TERMINAL	WIRE MARKING	TERMINAL	WIRE MARKING	REMARKS	
1	1	*	RMT	RMT/SPL1	SPLICE	SPL1/RMT	RCV AUDIO	
2	1	*	RMT	RMT/SPL2	SPLICE	SPL2/RMT	RCV AUDIO	
3								
4								
5								
6								
7		*	INLINE SPLICE TO CABLE R-RR-MED2					
8								
9								
10			NOTE: GROUND SHIELD TO CHASSIS AT					
11			BOTH ENDS OF CABLE					
12			REMOVE EXISTING WIRES ON SB-82					
13			REMOTE POSITION DESIGNATED BY					
14			SHIPS FORCE. IDENTIFY, LABEL,					
15			INSULATE AND TIE BACK EXISTING					
16			WIRES. HOOK UP NEW CABLE R-RR-MED2					
17			TO REMOTE TERMINALS PREVIOUSLY					
18			VACATED.					
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								

CABLE RUNNING LIST				SIZE A	CODE IDENT 14203	DRAWING NO. CVN-65 409 4791577		REV.
				SCALE	WEIGHT	SH 8 OF 11		

LEAD NO. R-RP-MED1			CABLE TYPE 3SJ14		ACTIVE COND 2		
UNIT A PWR PNL			CONNECTOR TYPE BX		UNIT B AC RECP		
NO	PAIR NO	COLOR CODE	TERMINAL	WIRE MARKING	TERMINAL	WIRE MARKING	REMARKS
1		BLK	BRK1-C	115VAC/PH C	1	115VAC/PH C	115VAC PHASE C
2		WHT	BRK1-A	115VAC/PH A	2	115VAC/PH A	115VAC PHASE A
3		RED	GND	GND	GND	GND	GROUND
4							
5							
6			NOTE: GROUND SHIELD TO CHASSIS				
7			AT BOTH ENDS OF CABLE				
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							

CABLE RUNNING LIST				SIZE A	CODE IDENT 14203	DRAWING NO. CVN-65 409 4791577		REV.
				SCALE	WEIGHT		SH 9 OF 11	

☆ GPO 793-376 Printed on Bonding 40-932

LEAD NO			R-RP-MED2		CABLE TYPE		3SJ14		ACTIVE COND		2	
UNIT A			PWR PHL		CONNECTOR TYPE		BX		UNIT B		AC RECP	
NR	PAIR NR	COLOR CODE	TERMINAL	WIRE MARKING	TERMINAL	WIRE MARKING	REMARKS					
1		BLK	BRK2-C	115VAC/PH C	1	115VAC/PH C	115VAC PHASE C					
2		WHT	BRK2-B	115VAC/PH B	2	115VAC/PH B	115VAC PHASE B					
3		RED	GND	GND	GND	GND	GROUND					
4												
5												
6			NOTE: GROUND SHIELD TO CHASSIS									
7			AT BOTH ENDS OF CABLE.									
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
32												
33												
34												
35												
36												

CABLE RUNNING LIST				SIZE	CODE IDENT	DRAWING NO.		REV.
				A	14203	CVN-65	409	4791577
SCALE				WEIGHT		SH 10		OF 11

LEAD NO R-RP-MED3			CABLE TYPE 3S.114			ACTIVE COND 2	
UNIT A PUR PHIL		CONNECTOR	TYPE BX		UNIT B RMDS RACK		CONNECTOR TYPE BX
NO	PAIR NO	COLOR CODE	TERMINAL	WIRE MARKING	TERMINAL	WIRE MARKING	REMARKS
1		BLK	BRK3-C	115VAC/PH C	1	115VAC/PH C	115VAC PHASE C
2		WHT	BRK3-A	115VAC/PH A	2	115VAC/PH A	115VAC PHASE A
3		RED	GND	GND	GND	GND	GROUND
4							
5							
6			NOTE: GROUND SHIELD TO CHASSIS AT BOTH ENDS OF CABLE.				
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							

CABLE RUNNING LIST		SIZE A	CODE IDENT 14203	DRAWING NO.		REV.
		SCALE	WEIGHT	CVN-65 409	4791577	SH 11 OF 11

☆ GPO 793-578 Printed on Bonding 40-532

III. RMDS SHIPBOARD WIRING SCHEMATICS

This section contains all wiring schematics used for the shipboard installation and testing on the USS ENTERPRISE.

GENERAL NOTES:

1. INSTALLATION OF CABLES WITHIN SECURE AND NON-SECURE SPACES SHALL BE IN ACCORDANCE WITH MR-STD-1680 (SHIPS) AND MR-STD-1310C RESPECTIVELY.
2. INSTALLATION SHALL BE IN ACCORDANCE WITH NS 0967-000-0110.
3. NUMBER ENCLOSED IN CIRCLE ○ DENOTES MATERIAL FIND NUMBER.
4. PARALLEL OFF EXISTING LIGHTING CIRCUIT.
5. INSTALL RUBBER MATTING IN FRONT OF RMDS OPERATING AREA.
6. CABLE LENGTHS ARE APPROXIMATE EXACT LENGTHS TO BE DETERMINED AT TIME OF INSTALLATION.
7. ALL EQUIPMENT NEW UNLESS OTHERWISE NOTED.
8. THIS DRAWING SPECIFICALLY APPLICABLE TO SHIPS LISTED IN THE DRAWING ISSUED BLOCK, ZONE 3A.
9. INSTALL AC RECEPTACLES ON BULKHEAD IN CLOSE PROXIMITY TO PIMMS CABINET AND DESK.
10. INSTALL AC POWER PANEL, PC NO 3, ON BULKHEAD IN CLOSE PROXIMITY TO RMD'S CABINET AND DESK. FOUNDATION TO SUIT.

[illegible]

NO	TITLE	REFERENCES
2	RMSD CABLE RUNNING LISTS	
1	RMSD EQUIP ARR AND FDNS	

INDEX		NO. IN	REVISED	DATE
SHEET	TITLE			
1	TITLE, INDEX, NOTES, REFERENCES, APPLICABILITIES			
2	MATERIAL LIST			
3	PLATEWORKING DIAGRAM			
4	ALTERNATE PARTS DETAILS			
5	SHOWN AND PLANS FOR DET TO BE MADE SPACES			

14203	CUNY 409 47917			
14203	CUNY 409 47917			
CODE IDENT	NAVSEASTCOM	REV	SHIP	CODE DATE
DRAWING NO		DATE ISSUED FOR		

NAVSEA ELECTRONIC SYSTEMS	
REMOTE MEDICAL DIAGNOSIS SYSTEM	
PLATEWORKING DIAGRAM	
479	CUNY 409 47917

D

11. SEE DETAILS THIS PLAN, SHEET 5, FOR MOUNTING AND PENETRATION INSTRUCTIONS FOR GROUND BOX, PC NO 1.
12. SEE DETAILS THIS PLAN, SHEET 5, FOR SHIELD GROUND CONNECTION FOR CONNECTOR. PC NO 11
13. MOUNT CONNECTION BOX, PC NO 2, ON BULKHEAD BEHIND RMD'S CABINET FOUNDATION TO SUIT.
14. WIRING BETWEEN RMD'S CABINET AND RMD'S CONNECTION BOX, PC NO 2, IS THE RESPONSIBILITY OF NAVAL OCEAN SYSTEMS CENTER.
15. INSTALLING ACTIVITY TO FURNISH ALL NAMEPLATES, CABLE TAGS AND MISCELLANEOUS INSTALLATION HARDWARE.
16. ALL NAMEPLATES SHALL BE ENGRAVED PHENOLIC, ALL CABLE TAGS SHALL BE EMBOSSED ALUMINUM AND ALL WIRE MARKING SHALL BE VINYL SLEEVING.

C

[illegible]

LEGEND

GFE GOVERNMENT FURNISHED EQUIPMENT

IAF INSTALLING ACTIVITY FURNISH

USED WITH PL 55
 USED WITH PL 5
 USED WITH PL 5

IAF
 IAF
 IAF

AF
 GFE
 AF
 AF
 IAF
 IAF
 AF
 IAF
 AF
 AF

GFE
 GFE
 GFE
 GFE
 GFE

SUPPLIED WITH PL 43
 SUPPLIED WITH PL 43

GFE
 GFE

USED WITH PL 5
 SEE GEN. NOTE
 SEE GEN. NOTE

GFE
 AF
 AF
 GFE
 GFE
 GFE
 GFE
 GFE

REMARKS

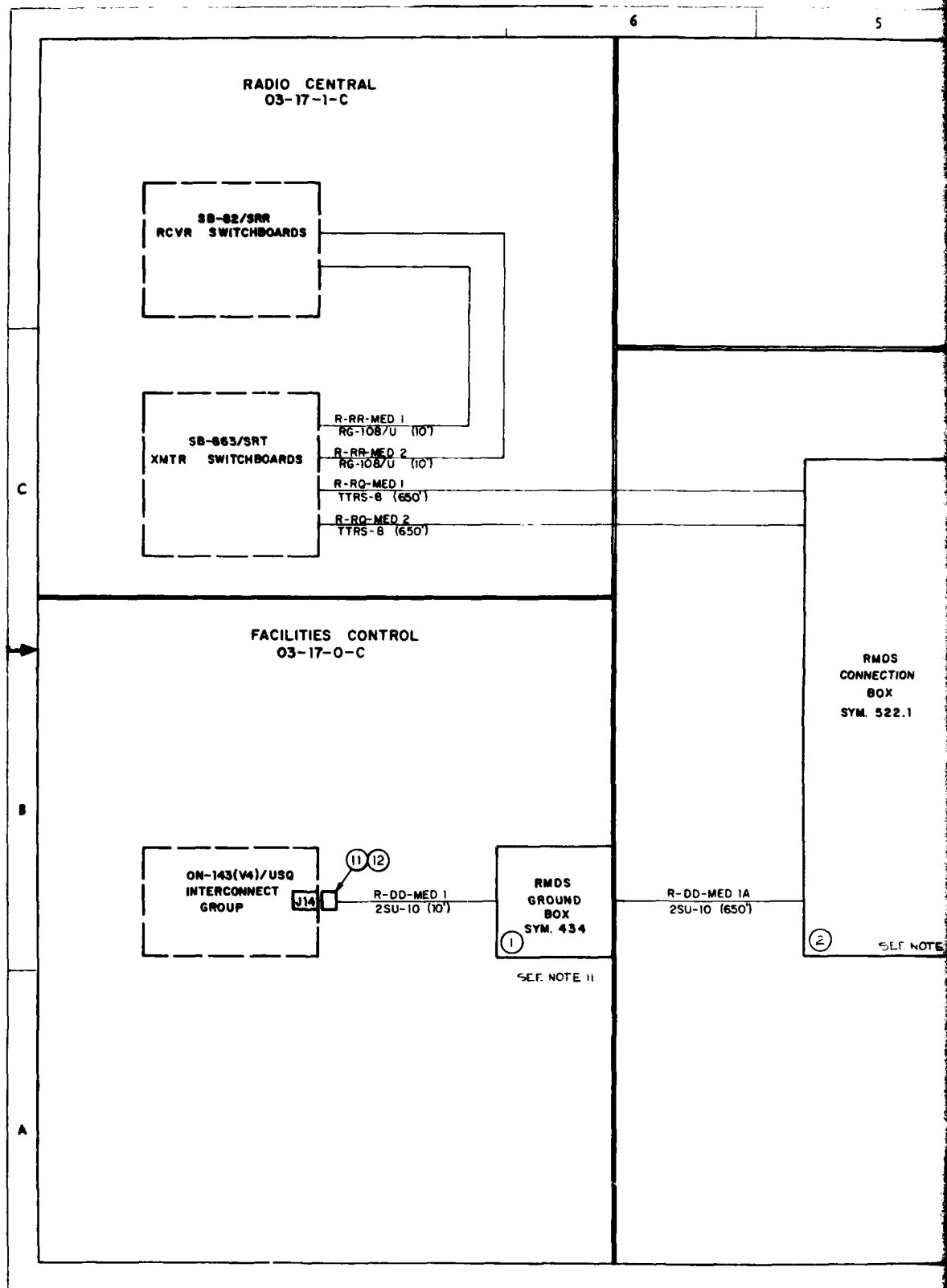
SOURCE

ELECTRONIC SYSTEMS

REMOTE MEDICAL DIAGNOSIS SYSTEM
(RMDS)

MATERIAL LIST

CVN 65 409 4791578



PASSAGE
2-138-2

POWER PANEL
440VAC, 3PH, 60Hz
59-4P-(2-138-2)

59-4P (2-138-2)
TSGU-14 (70')

WARD NO.1
2-120-1-L

TRANSFORMER
440/115 VAC
3 PH, 60Hz
59-4P/IP(2-120-1)

59-1P(2-120-1)
TSGU-14 (20')

POWER PANEL
115 VAC, 3PH, 60Hz
59-1P-(2-120-1)

DUPLEX
AC RECEPTACLE

R-RP-MED 1
3SJ-14 (10')

SEE NOTE 9

DUPLEX
AC RECEPTACLE

R-RP-MED 2
3SJ-14 (10')

SEE NOTE 9

R-RP-MED 3
3SJ-14 (10')

TO RMDS RACK PWR

SYM.333.1
LIGHT

R-RP-MED 4
3SJ-14 (5')

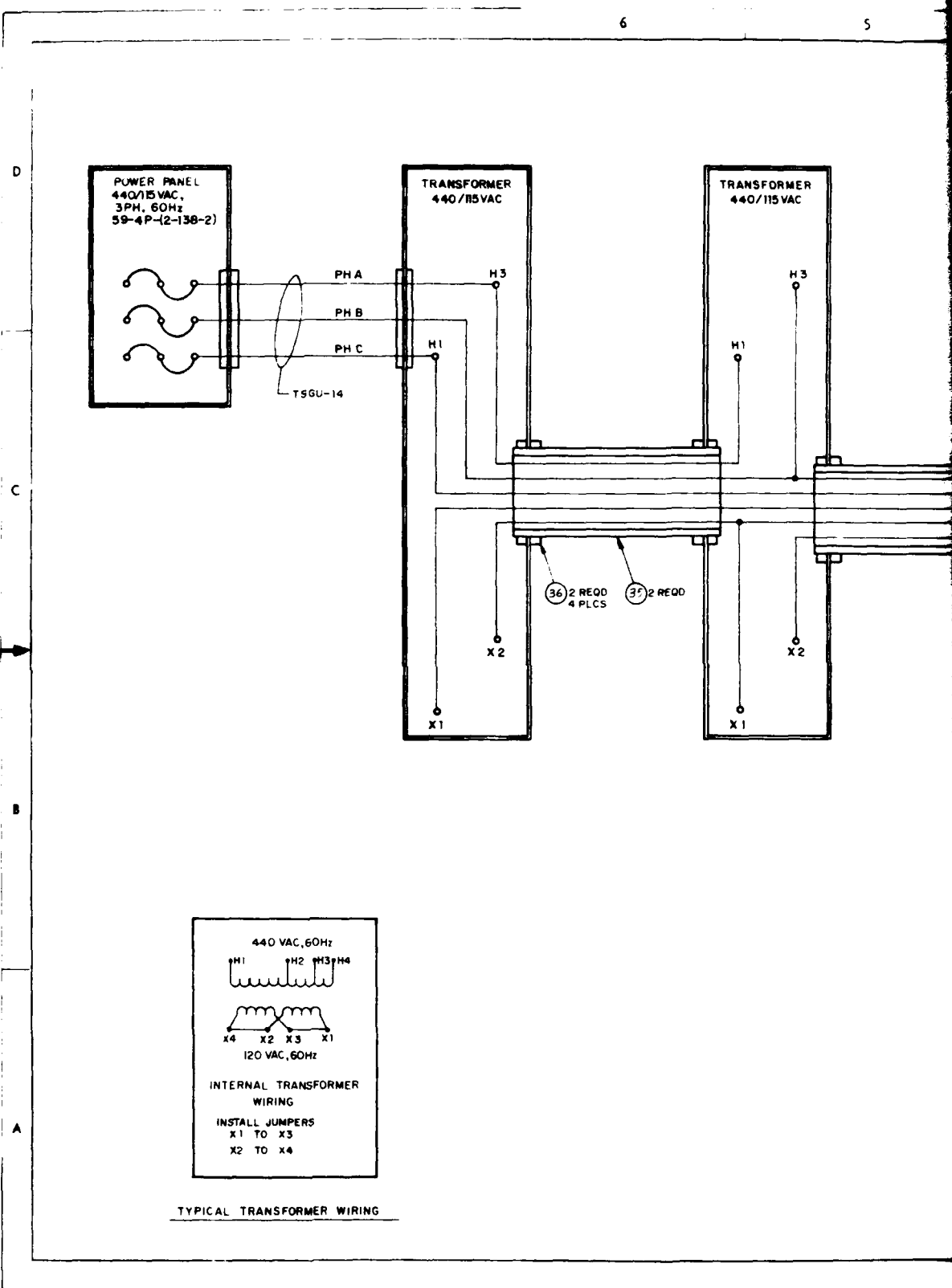
DUPLEX BOX

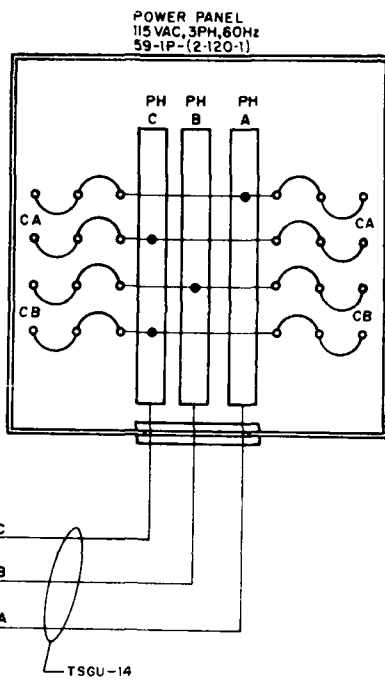
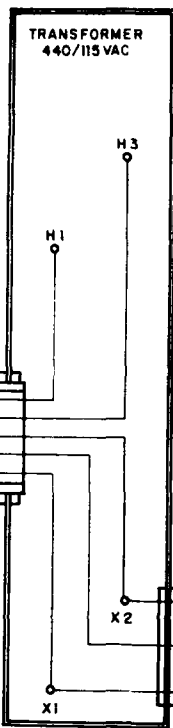
SEE NOTE 4

RMDS
SECTION
BOX
A 522.1

SEE NOTE 13

PERSONAL 1/18/77 NAVY FOR ACTIVITY APPROVAL SEE SHEET		NAVAL ELECTRONIC SYSTEMS REMOTE MEDICAL DIAGNOSIS SYSTEM (RMDS) BLOCK WIRING DIAGRAM D 14205 CVN 65 409 4791578 SCALE 3 5	
---	--	--	--





TRANSFORMER
59-4P/1P-(2-120-1)
440/115 VAC, 3PH
FOR POWER PANEL
59-4P-(2-138-2)

R-RP-MED 1 PH CA
AC RECEPTACAL
TREL 15A

RMDS
GROUND BOX

R-RP-MED 2 PH CA
AC RECEPTACAL
TREL 15A

RMDS
CONNECTION BOX

R-RP-MED 3 PH CB
RMDS RACK
TREL 15A

R-RP- PH CB
SPARE
TREL 15A
FOR POWER PANEL
59-1P-(2-120-1)

POWER PANEL 59-1P-(2-120-1)
115 VAC, 3 PH, 60Hz
FED FROM PWR PNL 59-4P-(2-138-2)
VIA 440/115 VAC XFER
FOR POWER PNL 59-1P-(2-120-1)

RMDS
NO 1

RMDS
NO 1

TRANSFORMER 59-4P/1P-(2-120-1)
440/115, 3 PH, 60Hz
FED FROM PWR PNL
59-4P-(2-138-2)
FOR TRANSFORMER

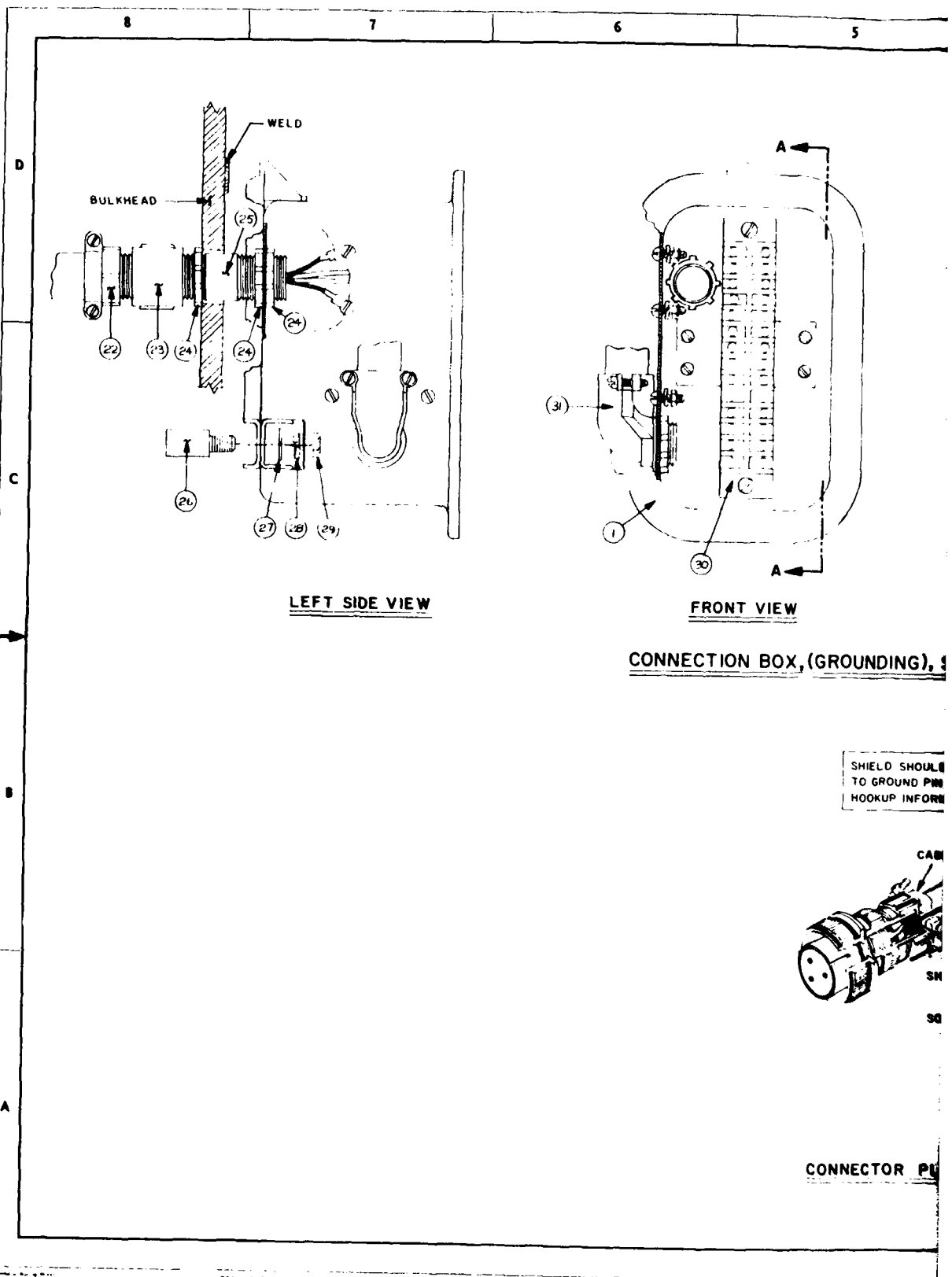
RMDS
NO 2
FOR
SB-82

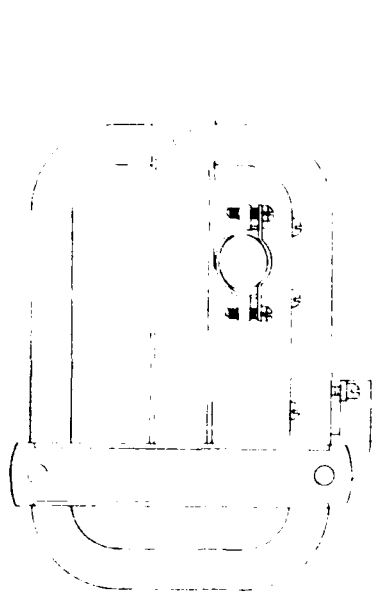
RMDS
NO 2
FOR
SB-863

WHITE LETTERS WITH BLACK BACKGROUND

WHITE LETTERS WITH
BLACK BACKGROUND

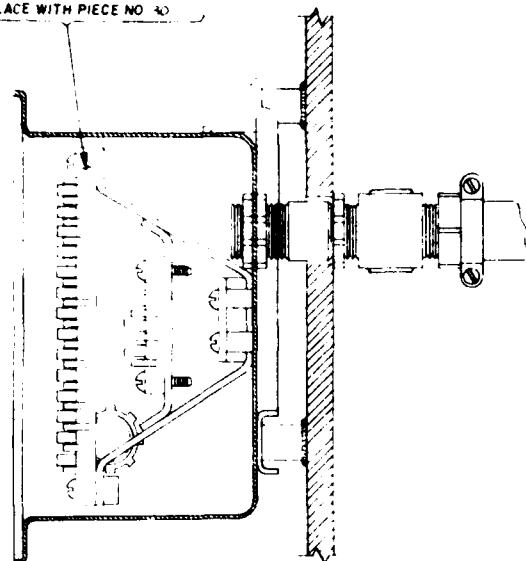
NAVAL ELECTRONICS
REMOTE MEDICAL DIAGNOSIS SYSTEM
(RMDS)
AC POWER AND MISCELLANEOUS DETS
14702 CVN 65 409 4791578





REAR VIEW

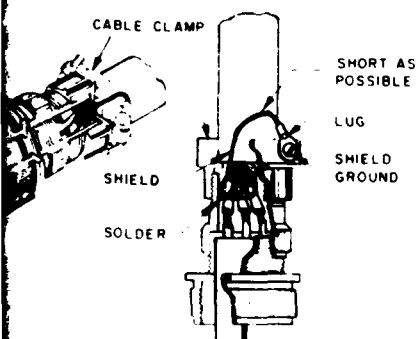
REMOVE EXISTING TERMINAL BLOCK
AND REPLACE WITH PIECE NO 40



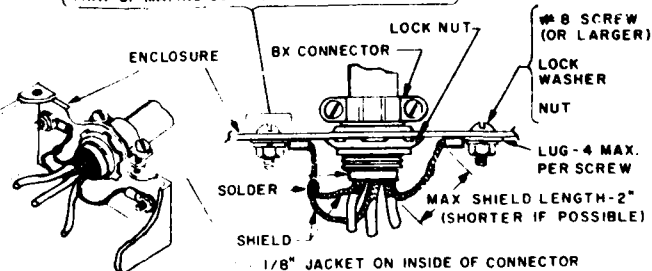
SECTION A-A

UNDING), SYM. 434, (MODIFIED 34 TERMINAL)

SHIELD SHOULD ALSO BE CONNECTED
TO GROUND PIN WHEN SO INDICATED BY
HOOKUP INFORMATION



BOTH SIDES CLEANED OF PAINT, ANODIC FILM,
GREASE, ETC., TO COVER AREA ONE & ONE-HALF
THAT OF MATING SURFACES



SHIELD GROUNDING TO CONNECTOR BOX

ECTOR PLUG GROUNDING

WESTNAVE 17800 17800 FOR ACTIVITY APPROVALS SEE SHEET 1		NAVAL ELECTRONIC SYSTEMS COMMAND WESTERN DIVISION REMOTE MEDICAL DIAGNOSIS SYSTEM (RMD) SHLD GND AND CABLE PEN. DET TO SECURE SPACES	
D 14203		CVN 65 409 4791578	
SCALE NONE		SH 5 OF 5	

1 NUMBER ENCLOSED IN CIRCLE () IN NOTE: MATERIAL FIND NUMBER:

2. THIS DRAWING SPECIFICALLY APPLICABLE TO THE SHIPS LISTED IN THE DRAWING
LISTED BLOCK, ZONE RA

3 ALL WILLING TO IS IN COMPLIANCE WITH N. 0901-920-0003 AND N. 1900 000 1000

4. TEMPLATE ALL WORK FROM "SHIP AND EQUIPMENT".

5. ALL FOUNDATIONS TO BE SET PARALLEL TO BASE LINE

6 GRIND SMOOTH ALL SURFES, AND SHARP EDGES AND REMOVE ALL WELD SLAG.

7 PAINT ALL EXPOSED SURFACES TO MATCH SURROUNDING COLOR IN ACCORDANCE
N.J.0902 DO FDDO SECTION 621

6 REPAIR AND REPLACE ALL INSULATION DAMAGED BY THIS INSTALLATION IN ACCORDANCE WITH N.E.C. 2002-001 5000, SECTION 035.

9. ALL ELECTRICAL AND ELECTRONIC EQUIPMENT INCLUDING CABINET 1, PC NO 1, AND DESK, PC NO 2, SHALL BE GROUNDING IN ACCORDANCE WITH MIL STD 1310C

10 MOUNT TRANSFORMER TO SUBST. USING 2 1/2" X 2 1/2" X 1/4" STEEL ANGLE PER NO. 10, 2 PIERCE & BLED APPROX 2" EACH MOUNT TO FIT IN TAILBOAT OUTSIDE WELD NO. 1, 1/4" X 1/4" X 1/4" EACH.

[illegible]

2	CABLE RUNNING LISTS
1	PMD'S BLOCK WIRING DIAGRAM
NO	TITLE

INDEX		REVISIONS	
SHEET	TITLE	ZONE LTR	DATE APPD BY
1	TITLE, INDEX, NOTES, REFERENCES, APPLICABILITIES		
2	MATERIAL LIST		
3	AIRGWT PLAN, ELEVATION & SECTION		
4	FOUNDATION DETAILS		

DRAWING LISTS				UNLESS OTHERWISE SPECIFIED				DESIGN AGENT		NAVAL ELECTRONIC SYSTEMS			
TITLE	CODE IDENT	DRAWING NO	DWG ISSUED FOR	INTERPRET DRAWING IN ACCORDANCE WITH STANDARDS PRESCRIBED IN MIL D 1000	DO NOT SCALE THIS DRAWING	DATE	BY	DATE	BY	DATE	BY	DATE	BY
14203	CVN-65 409 4791577	~	CVN 65	POW 2	116 B								
14203	CVN-65 409 4791578	~	CVN 65	POW 2	116 B								

REMOTE MEDICAL DIAGNOSIS SYSTEM (RMDS)			
EQUIPMENT ARRANGEMENT AND FOUNDATIONS			
D	14203	CVN-65 445 4791576	~
SCALE: 5		SH 1 OF 4	

8

7

6

5

GENERAL NOTES CONTINUED:

11. SYMBOL (H) DENOTES MATERIAL PIECE NO. AS FOLLOWS: UPPER SECTION REFERS TO PIECE PARTS, LOWER SECTION REFERS TO MATERIAL FIND NUMBER AS REFERENCED ON LIST OF MATERIALS THIS SHEET.
12. TEMPLATE, CABINET CORNER BACKING BRACES, PC NO 9, AND SWAY BRACE, PC NO 4, TO CABINET, PC NO 1, AND VERTICAL ANGLES, PC NO 3, DRILL AND MOUNT TO SUIT.
13. TEMPLATE, CAMERA SUPPORT SWAY BRACE, PC NO 5, TO CAMERA SUPPORT ANGLE AND DESK, DRILL AND MOUNT TO SUIT.
14. MOUNT CABINET, PC NO 1, AND DESK, PC NO 2, TO DECK USING 3/8-16 STUDS.
15. REMOVE TWO BUNKS PRIOR TO INSTALLATION OF RMS EQUIPMENT AND FOUNDATIONS.

D

C

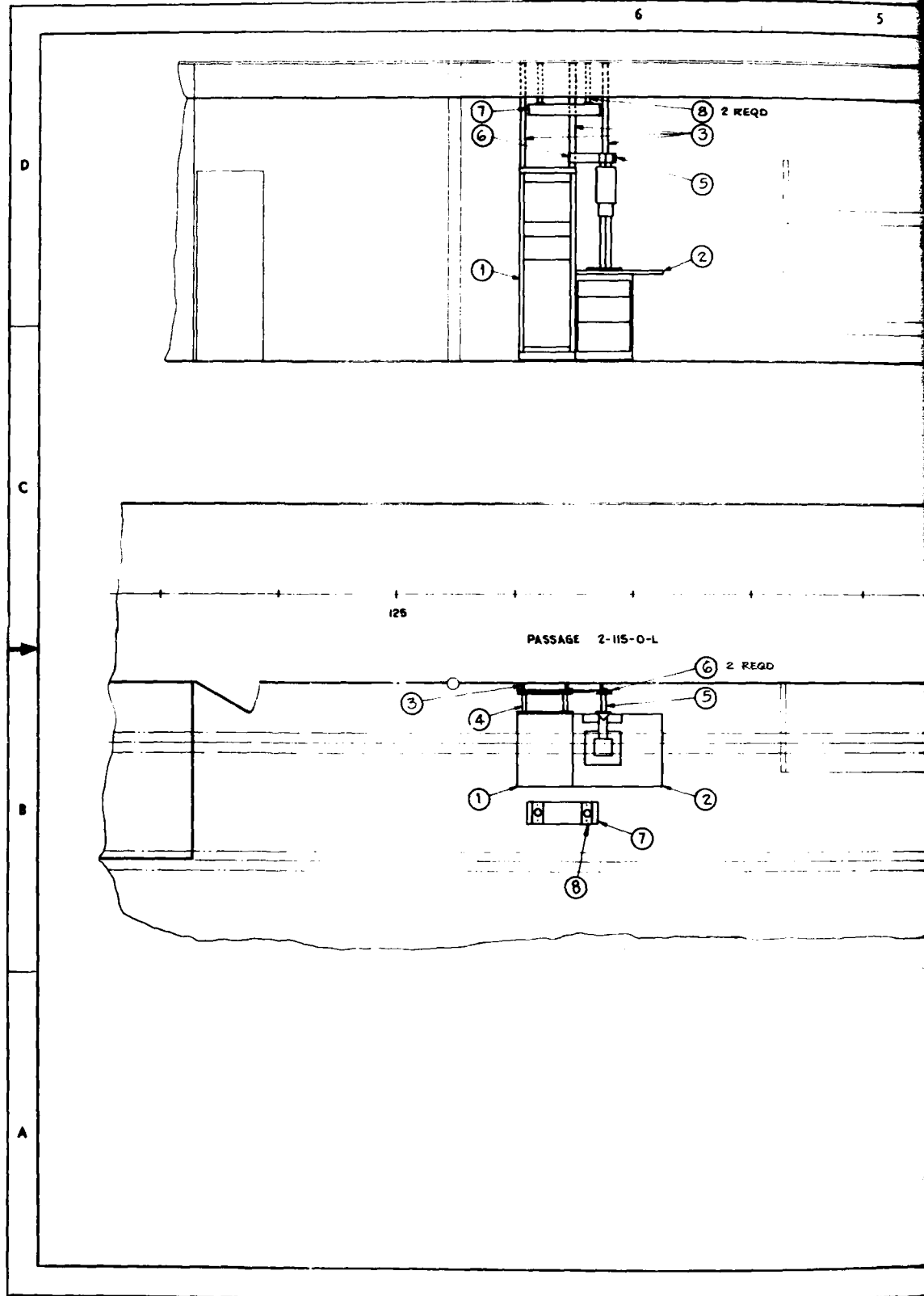
B

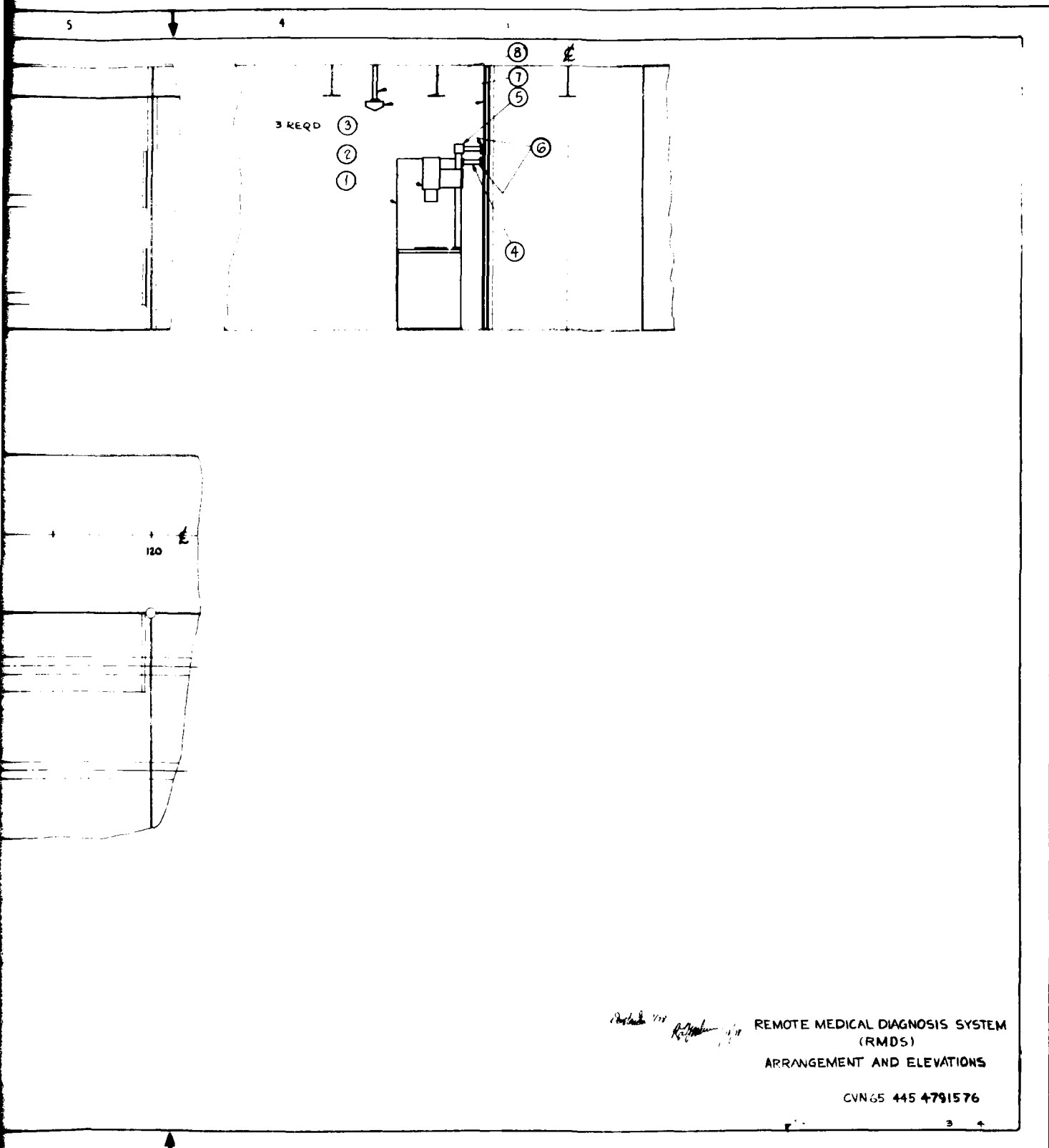
A

2	10	ANGLE 2 1/2 X 2 1/2 X 3/16 X 2' 0"		5	16	STEEL			FOR PC NO 5 R
2	9	CORNER BACKING BRACKET	12 X 3 X 3/16 FLT BAR	2	4	STEEL			
2	8	LIGHT FOUNDATION		3	6	STEEL			
1	7	LIGHT	SYM 335.1	12	12				ORDERED ON R
2	6	FLAT BAR 2 1/4 X 3 X 3/16		4	8	STEEL			
1	5	CAMERA SUPPORT SWAY BRACE		5	5	STEEL			
1	4	CABINET SWAY BRACE		12	12	STEEL			
3	3	ANGLE 2 1/2 X 2 1/2 X 3/16		40	120	STEEL			
1	2	DESK		60	60				INCLUDES CAM
1	1	CABINET		300	300				

REV	QTY	PIECE NO	DESCRIPTION	IDENTIFICATION NO	UNIT WEIGHT	TOTAL WEIGHT	MATERIAL	SPEC	FEDERAL STOCK NO	REMARKS
-----	-----	----------	-------------	-------------------	-------------	--------------	----------	------	------------------	---------

LIST OF MATERIAL

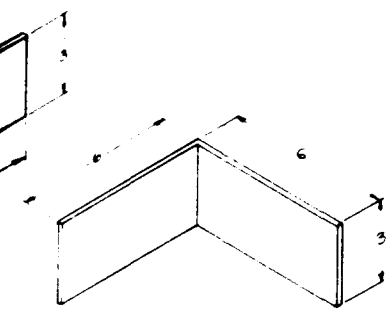




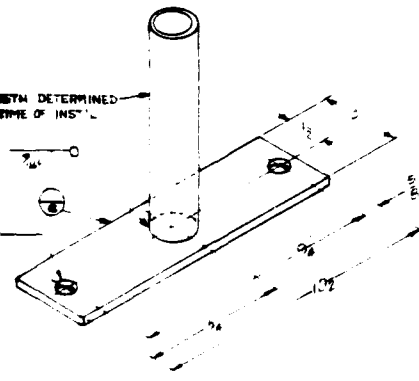


5 4 3 2 1

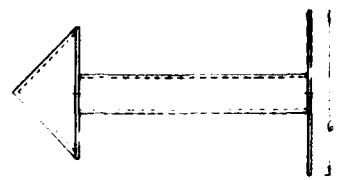
PIPE SHALL BE
AT TIME OF
INST'L



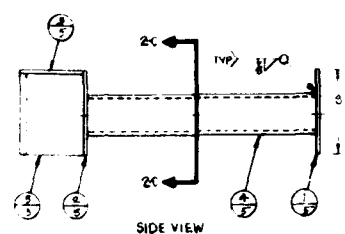
INSIDE TOP CORNER BACKING BRACKET ⑨
2 REQ'D
MATER'L: 3/16 THK STEEL



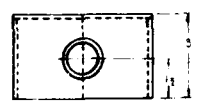
LIGHT FOUNDATION ⑧
2 REQ'D FLAT BAR 10 1/2" x 5" x 3/16" STEEL
2 REQ'D PIPE 1 1/2" DIA SCH 40 STEEL



TOP VIEW



SIDE VIEW



SECTION 2-C

CAMERA SUPPORT SWAY BRACE ⑤

- ① FLAT BAR 6" x 3/16" THK STEEL
- ② FLAT BAR 5" x 3/16" (LENGTHS SUIT ANGLE)
- ③ TOP x 3/16" (SIZE TO SUIT ANGLE)
- ④ PIPE (STL) 1 1/2" DIA SCH 40 (LENGTH DETERMINED AT TIME OF INST'L)
- ⑤ ANGLE (STL) (DIMENSIONS DETERMINED AT TIME OF INST'L)

DESIGN AGENT		NAVAL ELECTRONIC SYSTEMS ENGINEERING CENTER VALLEJO VALLEJO, CALIFORNIA 94581			
REVISIONS		REMOTE MEDICAL DIAGNOSIS SYSTEM (RMDS)			
FOR ACTIVITY APPROVALS SEE SHEET 1		FOUNDATION DETAILS			
SIZE	CODE DESIG NO	NAVY/NAVY/NAVY	NAVY/NAVY/NAVY	REV	
D	14203	CVN 65	445	4791576	
SCALE		SH 4 OF 4			